

ABSTRACT

PURPOSE: To provide a novel high strength polyethylene multifilament which consists of a plurality of filaments having high strengths and uniform internal structures, and showing a narrow variation in the strengths of the monofilaments, and which has been difficult to be provided by the conventional gel spinning method.

SOLUTION: A high strength polyethylene multifilament consisting of a plurality of filaments which are characterized in that the crystal size of monoclinic crystal is 9 nm or less; the stress Raman shift factor is - $5.0 \text{ cm}^{-1}/(\text{cN/dTex})$ or more; the average strength is 20 CN/dTex or higher; the knot strength retention of each monofilament is 40% or higher; CV indicating a variation in the strengths of the monofilaments is 25% or lower; the elongation at break is from 2.5% inclusive to 6.0% inclusive; the fineness of each filament is 10 dTex or less; and the melting point of the filaments is 145°C or higher.